

A preliminary List of the Ferns of Rolla, Missouri

F. C. GREENE

Rolla is situated near the center of the Missouri portion of the Ozark region. The surrounding district is rather rough and is consequently well drained, marshy land being almost unknown. The divides are capped by the Jefferson City formation, consisting of cotton rock above and pitted dolomite below. Underlying this is the Roubidoux sandstone which forms low cliffs along the streams. The lowest formation is the Gasconade with its cliff-forming dolomite. Near the Gasconade River this formation produces some fairly high and steep bluffs.

The ferns found, as may be judged from the above statements, are chiefly rock-loving species. Further search will doubtless reveal some lowland species and the dry Gasconade cliffs should add several to the list.

The most interesting find to date is *Ophioglossum Engelmanni*. On June 20, the writer found, in a hollow one mile west of Rolla, several thousand plants of this species, many of which were in fruit; on some plants the spikes had turned brown and on others had not yet attained the length of the leaf. Fertile plants three or four to eight inches long were found. The pitted dolomite mentioned above here forms a low cliff, back of which, away from the branch, is a small bench carved from the cotton rock. On this bench, for about one mile down the hollow—the distance examined—the adder's tongue was very abundant among the rocks, growing in a dry, sterile soil. A few plants were found in the narrow bottom near the stream where the rock ledge dips below the water.

Onoclea sensibilis. One colony of this species was found growing on sandstone in the bed of a creek.

Botrychium virginianum is common in deep shaded ravines and along wooded stream courses.

One small patch of *Polypodium vulgare* was found at King's sink, southwest of Rolla. So far, it has proven the rarest species of the region.

Adiantum pedatum is widely distributed along the base of wooded slopes.

Pteridium aquilinum has been found both on dry and somewhat moist hillsides.

Cheilanthes Féei is abundant on the dry cliffs of the Gasconade dolomite along the Gasconade River. It has also been found on the pitted dolomite near Rolla, but is seemingly rare.

Pellaea atropurpurea occurs on rock ledges throughout the district.

Pellaea glabella is common on dolomite, and especially so along the north bluffs of Little Piney Creek. It grows with *Pellaea atropurpurea*, but can be distinguished at a glance by its lighter green color and the shape of the pinnae.

Asplenium platyneuron is common on outcrops of sandstone and is not at all rare on other rocks.

Asplenium trichomanes appears to be rather rare and has been found only on sandstone.

Camptosorus rhizophyllus is found on wet rocks at the base of cliffs and along streams.

Dryopteris marginalis seems to be confined in this region to outcrops of sandstone, though future observation may prove this wrong.

Polystichum acrostichoides, chiefly the incised form, is abundant in the same situation as the maidenhair.

Filix bulbifera grows luxuriantly on wet cliffs about four and a half miles west of Rolla and will probably be found at other places.

Filix fragilis, like the cliff brake, occurs on rock ledges throughout the region, though in crevices and beneath projecting layers where it is shaded.

Woodsia obtusa is common on shaded cliffs of both sandstone and dolomite.

Equisetum hyemale, possibly a variety, occurs on the Frisco Railroad near Arlington, a few miles west of Rolla. (*E. laevigatum* of Bush).

The writer will be glad to furnish specimens of *Ophioglossum Engelmanni* and *Pellaea glabella* upon receipt of postage.

ROLLA, MISSOURI.

Pellaea Rafaelensis, Sp. Nov.

GEORGE L. MOXLEY

Some seven or eight years ago, when I had just begun to study the ferns, I found in Eagle Rock Canyon, near Los Angeles, Cal., a fern so different from the ordinary "Coffee fern" as to attract my interested attention. I referred it tentatively to *P. flexuosa* (Kaulf.) Link, which I found credited to California. In moving, sometime or other, I lost the specimen and had no opportunity to study it further. I have since seen Mr. S. B. Parish's statement in the Fern Bulletin, xii: 9, 1904, that the reference of *P. flexuosa* to California is "almost certainly erroneous."

Last year in another canyon in the same range of hills I found another plant that very much resembles the one I found before, as I now remember it. I have also recently seen what purported to be a specimen of *P. flexuosa* and my plant is most certainly not that species. Neither does it agree with our common *P. andromedae-folia* (Kaulf.) Fée. I wish to publish it as

Pellaea Rafaelensis, sp. nov. Rootstock slender, short-creeping, covered with narrow brown scales; stipes tufted, pale, glabrous, 30-40 cm. long; fronds 20-30 cm. long, 9-12 cm. broad, lanceolate, mostly bipinnate;